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## Keeping Bugs at Bay, and our Troops on the Battlefield

Filed under [FLEET AND THE FLEET MARINE FORCE](#), [FORCE HEALTH AND SAFETY](#), [HEATH](#) (NO COMMENTS)

**By Capt. Eric R. Hoffman, officer in charge, Navy Entomology Center of Excellence, and chairman of Armed Forces Pest Management Board**



Thermal foggers are used to kill infectious mosquitoes.

Biting insects and the diseases they carry pose serious risks to the nation’s warriors around the globe. Control programs incorporating insecticide applications aimed at decreasing insect populations and providing protective equipment play a key role in guarding deployed warfighters from potential life-threatening diseases to include malaria and dengue fever.

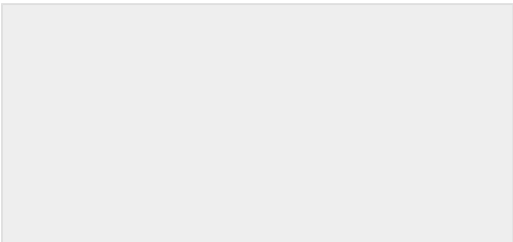
With the U.S. military prepared to deploy anywhere in the world in support of humanitarian, disaster relief and operational missions, discovering innovative solutions to control blood

feeding insects that carry human disease is key to success.

Our team at the [Navy Entomology Center of Excellence \(NECE\)](#) meets this challenge by providing expertise for the ongoing development of new and improved insecticides, application equipment and techniques, and surveillance methods. For several years I have been privileged to work with and lead this team of dedicated scientists and technicians. Without question, they are squarely focused on discovering new and innovative tools to protect deployed forces from disease.

For example, equipment used to control mosquitoes, filth flies and sand flies generally generate small insecticide droplets, much smaller that the diameter of human hair, which disperse through the air and randomly impact flying insects; clearly a “hit or miss” proposition.


Looking for a more “targeted approach”, Jacques Bertrand, a NECE scientist and formulation chemistry specialist, developed a patent pending machine that measures the size and polarity of extremely small electric charges, femtocoulombs for all you





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physics enthusiasts, generated by flying insects. Using the information obtained from this device, our scientists are able to develop new insecticide formulations and application equipment that efficiently “seek and destroy” the target while minimizing non-target and adverse environmental effects.



The US Navy has developed a highly sensitive device to measure the static charge generated by flying insects.

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